



THERMAL IMAGING OPTICAL DEVICES



This Product made by:

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Basic User's Manual

**THERMAL IMAGING
BINOCULARS-
GOGGLES**

TVS 7B

Dear Customer,

This Manual is a basic instruction on operating the Thermal Imaging Device TVS 7B. We assume that an operator has a knowledge in principle on use of electro-optical systems. However if you find any difficulties in operating device please:

1. Read this Manual thoroughly to make sure that you understand completely its instructions and warnings.
2. Contact our Technical Support Service via phone, fax, e-mail.

We hope that you will enjoy our Products. Thank you.

NEWCON OPTIK

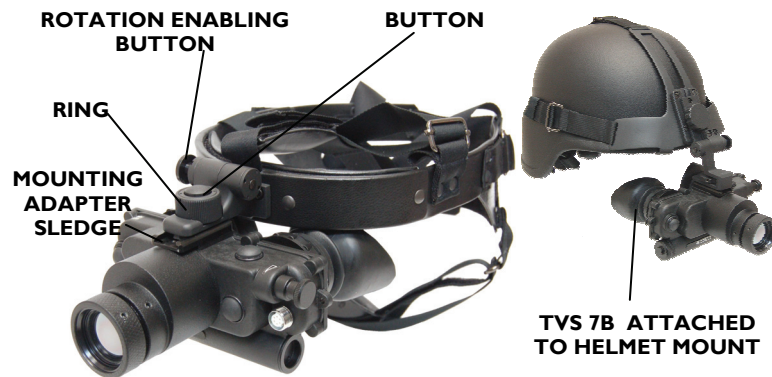
Specifications of TVS 7B

Sensor	Microbolometer*
Type*	"TI-3620as", Uncooled
Detector	Amorphous Silicon
Display(s) Resolution	640 x 480
Output Resolution	640 x 480
Thermal Sensitivity	<100 mk
Spectral Response	7-14 um
Focal Length	25 mm
Field of View	11 x 8 degrees
Lens type	Germanium
Video Output	NTSC
Water Resistant	Yes
Power Supply	2.5-3.3V
Battery size	Lithium/rechargeable AA
Weight	450 gr

Manufacturer's Warranty

Newcon Optik warrants its Optical Products against genuine manufacturer's defects in materials and workmanship for a period of one full year from the original date of purchase. All optical electronic parts, components which used in covered products, such as image intensifier tubes, focal plain arrays (thermal cores) are covered by their original Manufacturer's warranty. Any device returned for warranty service or repair must be judged by Newcon's Technical Control Department as having been used accordingly its original design intents. As such misuse, neglect, or any abnormal use is not covered by this warranty. Product's malfunction or deterioration due to normal use is not covered by this warranty. NEWCON will repair or replace such products or parts which, upon inspection by TCD is found to be defective in either materials or workmanship. As a condition of NEWCON obligation regarding a warranty work, the product must be returned to the place where it has been purchased with satisfactory proof of purchase (sales invoice must be presented). This warranty is null and void if equipment has been altered, tampered with, modified, or otherwise abused, mishandled or subjected to unauthorised repairs. NEWCON disclaims any other warranties, either expressed or implied, except as expressed herein. The sole obligation of NEWCON is to repair or replace the covered device. NEWCON expressly disclaims responsibility for any lost profits, general, specific, direct, indirect, or consequential damages which may result from breach of any warranty, or resulting from the use, or inability to use any NEWCON's product. Do not return merchandise directly to NEWCON without expressed permission of our Customer Service Representative who has to issue a Return Authorisation Number (RA#). NEWCON accepts No responsibility for unauthorised returns. All items returned for exchange, upgrade, repair, service etc. must be with all accessories, in original packaging, shipping and insurance cost prepaid both ways. Items received by NEWCON without RA#, missing parts or accessories, or damaged due to inadequate packaging, or customer's abuse (i.e. scratched, cracked body, burned IIT/FPA or broken lens)-will be returned back to customer or repaired for the cost.

FPA Ser. No: _____ Housing Ser. No: _____



TVS 7B is a self-contained system designed for use as binoculars (hand-held operation) or goggles (head/Helmet mounted). The Head Gear is furnished with “flip up” mechanism.

To set and adjust the Head Gear turn the **ring** counter clockwise until it stops. Press the **button** in the middle of this **ring** and insert the **mounting adapter sledge** into the mounting slot of the Device. Now you can release the **button**.

Set the Device in the most comfortable for Operator position, tighten the **ring** by turning it clockwise until it stops.

Adjust and tighten all straps around the head and under the chin to reach more convenient and stable state of the device. To “flip-up” the Device simply press the **rotation enabling button** and turn the device to the “top” position. The mounting bracket can be removed from the Head Gear and mounted to the helmet as well.

TVS 7B can be used with “snap on” 50 mm lenses which increases magnification and operating range. Before attaching “snap on” lens remove protective cover ring from the existing lens of the **TVS 7B**.



Thermal Imaging Binoculars **TVS 7B** enable the professional users to visualize a heat irradiated by live bodies, targets and other objects. Device detects extremely low difference in temperature, thus distinguishing the object image from its background.

Unlike the conventional night vision equipment, which requires minimum light or supporting illumination and might not always be effective in smoky or foggy environment, **TVS 7B** needs no light to operate and generates high-quality image in the harsh weather conditions. The camouflage doesn't help to obscure a hiding body as **TVS 7B** detects body's heat through.

Thermal imager is powerful tool for tactical, surveillance and scene assessment applications. Its small size, light weight and convenient bi-ocular design make **TVS 7B** simple and effective in operation. Law enforcement, public safety service and other professional users can use the system to conduct hidden compartment searches, perimeter surveillance, marine or ground surveillance, safer flights, structure profiling activities, fugitive and rescue searches, disturbed surface investigations, pollutant searches and vehicle pursuits. In fire and rescue applications, thermal imaging is used to conduct scene size up, in-fire attack, search and rescue, hazmat assessments and post-fire overhaul.

TVS 7B can be used as hand-held Thermal Imager Binoculars or head/helmet-mounted Goggles.

*Detection range depends on various factors, like outside temperature, size of object, type of lens used etc.

****Universal Service Connector** allows connecting **TVS 7B** to video (cable enclosed) or to external battery pack (optional)

DESCRIPTION



1. ON/OFF Power Button Switch
2. Left & Right Eyepieces with Rubber eyecups*
3. Manual Brightness Control (override) of displays.
4. Digital Zoom Button Switch
5. Universal Service Connector (see details on page 4)
6. Front lens with Focusing Ring
7. "Black hot-white hot" Button Switch ("BH-WH")
8. Battery Compartment Cover
9. Dioptic Adjustment Rings.

*Interpupillary adjustments between eyes. Slide<-> or >-<

External Power Pack.

Very convenient for long time or cold weather operation. Comes with high capacity Li-Ion batteries and universal charger. Good for up to 8 hours of continuous work.

Caution! When external battery pack is in use strictly recommended to remove 2 pcs. of AA batteries from battery compartment. Leaving them inside will cause overheating of the device and/or batteries which would cause batteries leakage and power drain from the external battery pack. Battery Pack has red LED which is ON when connected to **TVS 7B**. Universal 110-250 V charger is included.

IMPORTANT NOTICE. USE OF IMPROPER BATTERIES OR VOLTAGE MAY SERIOUSLY DAMAGE DEVICE WITH NO WARRANTY COVERAGE FROM US!

How To Do It

This is the short description how to operate **TVS 7B**.

Read carefully to make sure you fully understand how to power up your Thermal Imager properly.

TVS 7B needs minimum 2.4 V and Maximum 3.3 V, therefore Use only Lithium type 2 pcs. AA batteries (1.5V each) or at least 2500 mAh Rechargeable batteries AA size (1.2V each).

To begin with, install batteries into battery compartment (8) complying with polarity guidance (-)inside, (+)outside. Remove cover from the front lens and switch Power Button into position ON. Clicking sound in the beginning of usage is normal for thermal core. By turning and moving Dioptic Adjustment rings (9) adjust diopters and distance between eyepieces to satisfy the user eyes' visual acuity for the system's best performance. Observing the object adjust focus by turning front lens (6).

With optional **Video-Out-to USB adapter and software** the video signal from Thermal Imager can be transferred to the computer and stored for tactical purposes.

Video-Out cable.

Allows to connect **TVS 7B** to any standard RCA Video-In (monitor, TV, VCR etc.)

Video-Out-to USB adapter and software.

Allow to transfer images into digital format for further transfer to a computerized fire control system.

NOTE. All technical description and features of the product are subject to change without prior notice.

ATTENTION! DO NOT POINT THE TURNED ON DEVICE TO THE BRIGHT LIGHT SOURCE! IN SOME CASES LIGHT OVERLOAD MAY CAUSE IRREVERSIBLE REDUCTION OF I.I.T. OR F.P.A. RESPONSIVITY OR PERMANENT DAMAGING.